

# Wall thickness table DIN/ISO/EN/ASME

NPS		Outside diameter in mm				DIN / ISO Wall thicknesses					Wall thicknesses in acc. with DIN EN 10253-2								Wall thicknesses / Schedule in acc. with ASME B 36.10 Wall sicknesses series ASME B 36.19 Stainless Steel series 5S, 10S, 40S, 80S																		
DN	INCH	DIN	ISO	EN	ASME	1	2	3	4	5	1	2	3	4	5	6	7	8	5S	5	10S	10	20	30	40S	Std	40	60	80S	XS	80	100	120	140	160	XXS	
15	½"	20.0	21.3	21.3	21.3	1.6		2.0	3.2	4.0		2.0	2.6	3.2	4.0		5.0	7.1	1.65	1.65	2.11	2.11		2.41	2.77	2.77	2.77		3.73	3.73	3.73				4.78	7.47	
20	¾"	25.0	26.9	26.9	26.7	1.6		2.3	3.2	4.0		2.3	2.6	3.2	4.0	4.5	5.6	8.0	1.65	1.65	2.11	2.11		2.41	2.87	2.87	2.87		3.91	3.91	3.91				5.56	7.82	
25	1"	30.0	33.7	33.7	33.4	2.0		2.6	3.2	4.0		2.6	3.2	<b>4.0</b>	<b>4.5</b>	5.6	6.3	8.8	1.65	1.65	2.77	2.77		2.90	3.38	3.38	3.38		4.55	4.55	4.55				6.35	9.09	
32	1¼"	38.0	42.4	42.4	42.2	2.0		2.6	3.6	4.0		2.6	3.6	<b>4.0</b>	<b>5.0</b>	6.3	8.0	10.0	1.65	1.65	2.77	2.77		2.97	3.56	3.56	3.56		4.85	4.85	4.85				6.35	9.70	
40	1½"	44.5	48.3	48.3	48.3	2.0		2.6	4.0	5.0		2.6	3.6	4.0	5.0	6.3	8.0	10.0	1.65	1.65	2.77	2.77		3.18	3.68	3.68	3.68		5.08	5.08	5.08				7.14	10.15	
50	2"	57.0	60.3	60.3	60.3	2.0		2.9	4.5	5.6		2.9	3.6	<b>4.0</b>	5.6	7.1	8.8	11.0	1.65	1.65	2.77	2.77		3.18	3.91	3.91	3.91		5.54	5.54	5.54				8.74	11.07	
	2½"			73.0	73.0									4.5	7.1			14.2	2.11	2.11	3.05	3.05		4.78	5.16	5.16	5.16		7.01	7.01	7.01				9.53	14.02	
65		76.1	76.1	76.1		2.3		2.9	5.0	7.1		2.9	3.6	<b>5.6</b>	7.1	8.0	10.0	14.2																			
80	3"	88.9	88.9	88.9	88.9	2.3		3.2	5.6	8.0		3.2	4.0	5.6	8.0	8.8	11.0	16.0	2.11	2.11	3.05	3.05		4.78	5.49	5.49	5.49		7.62	7.62	7.62				11.13	15.24	
	3½"			101.6	101.6									5.6	8.0				2.11	2.11	3.05	3.05		4.78	5.74	5.74	5.74		8.08	8.08	8.08						
100	4"	108.0	114.3	114.3	114.3	2.6		3.6	6.3	8.8		3.6	4.5	6.3	8.8	11.0	14.2	17.5	2.11	2.11	3.05	3.05		4.78	6.02	6.02	6.02		8.56	8.56	8.56		11.13		13.49	17.12	
125		133.0	139.7	139.7		2.6		4.0	6.3	10.0		4.0	5.0	6.3	10.0	12.5	16.0	20.0																			
	5"			141.3	141.3									6.3	10.0		16.0	20.0	2.77	2.77	3.40	3.40			6.55	6.55	6.55		9.53	9.53	9.53		12.70		15.88	19.05	
150	6"	159.0	168.3	168.3	168.3	2.6	4.0	4.5	7.1	11.0		4.0	4.5	5.6	7.1	11.0	14.2	17.5	2.77	2.77	3.40	3.40			7.11	7.11	7.11		10.97	10.97	10.97		14.27		18.26	21.95	
200	8"	216.0	219.1	219.1	219.1	2.9	4.5	6.3	8.0	12.5		4.5	6.3	7.1	8.0	12.5	16.0	17.5	2.77	2.77	3.76	3.76	6.35	7.04	8.18	8.18	8.18	10.31	12.70	12.70	12.70	15.09	18.26	20.62	23.01	22.23	
250	10"	267.0	273.0	273.0	273.0	2.9	5.0	6.3	8.8	14.2		5.0	6.3	8.8	<b>10.0</b>	<b>12.5</b>	16.0	22.2	3.40	3.40	4.19	4.19	6.35	7.80	9.27	9.27	9.27	12.70	12.70	12.70	15.09	18.26	21.44	25.40	28.58	25.40	
300	12"	318.0	323.9	323.9	323.8	2.9	5.6	7.1	10.0	16.0		5.6	7.1	8.8	10.0	<b>12.5</b>	17.5	25.0	3.96	3.96	4.57	4.57	6.35	8.38	9.53	9.53	10.31	14.27	12.70	12.70	17.48	21.44	25.40	28.58	33.32	25.40	
350	14"	368.0	355.6	355.6	355.6	3.2	5.6	8.0	11.0	17.5		5.6	8.0	10.0	<b>12.5</b>	<b>16.0</b>	20.0	28.0	3.96	3.96	4.78	6.35	7.92	9.53	9.53	9.53	11.13	15.09	12.70	12.70	19.05	23.83	27.79	31.75	35.71		
400	16"	419.0	406.4	406.4	406.4	3.2	6.3	8.8	12.5	20.0		6.3	8.8	10.0	12.5	<b>17.5</b>	22.2	30.0	4.19	4.19	4.78	6.35	7.92	9.53	9.53	9.53	12.70	16.66	12.70	12.70	21.44	26.19	30.96	36.53	40.49		
450	18"	470.0	457.0	457.0	457.0	4.0	6.3	10.0	14.2	22.2		6.3	10.0	11.0	<b>12.5</b>	<b>17.5</b>	22.2	32.0	4.19	4.19	4.78	6.35	7.92	11.13	9.53	9.53	14.27	19.05	12.70	12.70	23.83	29.36	34.93	39.67	45.24		
500	20"	521.0	508.0	508.0	508.0	4.0	6.3	11.0	16.0	25.0		6.3	<b>10.0</b>	11.0	<b>12.5</b>	<b>17.5</b>	25.0	36.0	4.78	4.78	5.54	6.35	9.53	12.70	9.53	9.53	15.09	20.62	12.70	12.70	26.19	32.54	38.10	44.45	50.01		
600	24"	622.0	610.0	610.0	610.0	5.0	6.3	12.5	17.5	30.0		6.3	<b>10.0</b>	12.5	17.5	<b>25.0</b>	30.0	45.0	5.54	5.54	6.35	6.35	9.53	14.27	9.53	9.53	17.48	24.61	12.70	12.70	30.96	38.89	46.02	52.37	59.54		
700	28"	720.0	711.0	711.0	711.0	5.0	7.1	12.5				7.1	<b>10.0</b>	12.5	17.5											9.53											
800	32"	820.0	813.0	813.0	813.0	5.6	8.0	12.5				8.0	<b>10.0</b>	12.5	<b>25.0</b>											9.53	17.48										
900	36"	920.0	914.0	914.0	914.0	6.3	10.0	12.5				10.0	12.5	20.0	<b>25.0</b>											9.53	19.05										
1000	40"	1020.0	1016.0	1016.0	1016.0	6.3	10.0	12.5				10.0	12.5	20.0	<b>25.0</b>										9.53												
1200	48"		1220.0	1219.0	1219.0	6.3	12.5					<b>10.0</b>	12.5	20.0	25.0										9.53												

NPS Nominal Pipe Size  
 DN Diameter Nominal  
 PN Pressure Nominal

- EN series 1 = standard wall welded carbon steel equivalent to DN 1000 DIN/ISO series 2
- EN series 2 = standard wall seamless carbon steel equivalent to DN 450 DIN/ISO series 3
- EN series 3 = wall thickness schedule from DIN 2448, below the DIN/ISO series 4, from DN 500–DN 800 DIN/ISO series 3
- EN series 4 = similar to DIN/ISO series 4
- EN series 5 = similar to DIN/ISO series 5
- EN series 6–8 = wall thickness series, very thick-walled, in some areas in consistent with ASME schedules
- For buttwelding fittings in acc. with DIN EN 10253-4 (stainless steel), wall thickness in acc. with DIN EN ISO 1127 (stainless steel pipes) = old DIN/ISO series 1

The EN series 3+4 include thick-walled designs for seamless and welded fittings.

The EN series 5–8 are purely for seamless accessories and end at DN 600.

The **bolded** wall thicknesses have been changed compared to the old DIN/ISO wall thicknesses.

Version: 8-2024 / All information is subject to change.



# Materials comparison EN/DIN /ASTM

Pipes / Tubes			Flanges			Buttwelding Fittings					
Material	EN	DIN	ASTM	Material	EN	DIN	ASTM	Material	EN	DIN	ASTM
<b>Non-alloy</b>			<b>Non-alloy</b>			<b>Non-alloy</b>					
1.0254	P235TR1	St 37.0	A 53 Grade A	1.0038	S235JR	FRSt 37-2		1.0254	S235	St 37.0	
1.0570	S355J2H (1.0576)	St 52-3		1.0570	S355J2 (1.0577)	St 52-3					
1.0305	P235GH TC1 (1.0345)	St 35.8/I	A 106 Grade A	1.0460	P250GH	C 22.8		1.0305	P235GH (1.0345)	St 35.8/I	A 234 Grade WPA
1.0305	P235GH TC2 (1.0345)	St 35.8/III		1.0432		C 21	A 105	1.0305	P235GH (1.0345)	St 35.8/III	
1.0405	P265GH TC1 (1.0425)	St 45.8/I	A 106 Grade B	1.0352	P245GH			1.0405	P265GH (1.0425)	St 45.8/I	A 234 Grade WPB
1.0405	P265GH TC2 (1.0425)	St 45.8/III						1.0405	P265GH (1.0425)	St 45.8/III	
<b>Alloyed heat-resistant</b>			<b>Alloyed heat-resistant</b>			<b>Alloyed heat-resistant</b>					
1.5415	16Mo3	15 Mo 3	A 335 Grade P1	1.5415	16Mo3	15 Mo 3	A 182 Grade F1	1.5415	16Mo3	15 Mo 3	A 234 Grade WP1
1.7335	13CrMo4-5	13 CrMo 4 4	A 335 Grade P12	1.7335	13CrMo4-5	13 CrMo 4 4	A 182 Grade F12	1.7335	13CrMo4-5	13 CrMo 4 4	A 234 Grade WP12
			A 335 Grade P11				A 182 Grade F11				A 234 Grade WP11
1.7380	10CrMo9-10	10 CrMo 9 10	A 335 Grade P22	1.7380	11CrMo9-10 (1.7383)	10 CrMo 9 10	A 182 Grade F22	1.7380	10CrMo9-10	10 CrMo 9 10	A 234 Grade WP22
1.7362	X11CrMo5	12 CrMo 19 5	A 335 Grade P5	1.7362		12 CrMo 19 5	A 182 Grade F5	1.7362	X11CrMo5	12 CrMo 19 5	A 234 Grade WP5
			A 335 Grade P9				A 182 Grade F9				A 234 Grade WP9
1.4903	X10CrMoVNb9-1		A 335 Grade P91	1.4903	X10CrMoVNb9-1		A 182 Grade F91	1.4903	X10CrMoVNb9-1		A 234 Grade WP91
<b>Low temperature</b>			<b>Low temperature</b>			<b>Low temperature</b>					
1.5637	X12Ni14	10 Ni 14	A 333 Grade 3	1.5637	12Ni14	10 Ni 14	A 350 Grade LF3	1.5637	12Ni14	10 Ni 14	A 420 Grade WPL3
1.0356	P215NL (1.0451)	TTSt 35 N	A 333 Grade 1	1.0566	P355QH1 (1.0571)	TStE 355	A 350 Grade LF2	1.0356	P215NL (1.0451)	TTSt 35 N	
1.0356	P255QL (1.0452)	TTSt 35 V						1.0356		TTSt 35 V	
	P265NL (1.0453)		A 333 Grade 6						P265NL (1.0453)		A 420 Grade WPL6
<b>Fine-grain steels</b>			<b>Fine-grain steels</b>			<b>Fine-grain steels</b>					
1.0486		StE 285	API 5L Grade X42	1.0486		StE 285	A 694 Grade F42	1.0486		StE 285	A 860 Grade WPHY42
1.0562	P355N	StE 355	API 5L Grade X52	1.0562	P355N	StE 355	A 694 Grade F52	1.0562	P355N	StE 355	A 860 Grade WPHY52
1.8902	P420N	StE 420	API 5L Grade X60	1.8902	P420N	StE 420	A 694 Grade F60	1.8902		StE 420	A 860 Grade WPHY60
1.8905	P460N	StE 460	API 5L Grade X70	1.8905	P460N	StE 460	A 694 Grade F70	1.8905		StE 460	A 860 Grade WPHY70
<b>High yield steels</b>			<b>High yield steels</b>			<b>High yield steels</b>					
1.0457	L245NB / L245NE	StE 240.7	API 5L Grade B					1.0457		StE 240.7	
1.0484	L290NB / L290NE	StE 290.7	API 5L Grade X42					1.0484	L290NB / L290NE	StE 290.7	A 860 Grade WPHY42
1.0582	L360NB / L360NE	StE 360.7	API 5L Grade X52					1.0582	L360NB / L360NE	StE 360.7	A 860 Grade WPHY52
1.8972	L415NB / L415NE	StE 415.7	API 5L Grade X60					1.8972	L415NB / L415NE	StE 415.7	A 860 Grade WPHY60
<b>Stainless steels</b>			<b>Stainless steels</b>			<b>Stainless steels</b>					
1.4307	X2CrNi18-9		A 312 Grade TP304L	1.4307	X2CrNi18-9		A 182 Grade F304L	1.4307	X2CrNi18-9		A 403 Grade WP304L
1.4306	X2CrNi19-11	X 2 CrNi 19 11	A 312 Grade TP304L	1.4306		X 2 CrNi 19 11	A 182 Grade F304L	1.4306	X2CrNi19-11	X 2 CrNi 19 11	A 403 Grade WP304L
1.4301	X5CrNi18-10	X 5 CrNi 18 10	A 312 Grade TP304	1.4301	X5CrNi18-10	X 5 CrNi 18 10	A 182 Grade F304	1.4301	X5CrNi18-10	X 5 CrNi 18 10	A 403 Grade WP304
1.4541	X6CrNiTi18-10	X 6 CrNiTi 18 10	A 312 Grade TP321	1.4541	X6CrNiTi18-10	X 6 CrNiTi 18 10	A 182 Grade F321	1.4541	X6CrNiTi18-10	X 6 CrNiTi 18 10	A 403 Grade WP321
1.4550	X6CrNiNb18-10	X 6 CrNiNb 18 10	A 312 Grade TP347	1.4550	X6CrNiNb18-10	X 6 CrNiNb 18-10	A 182 Grade F347	1.4550	X6CrNiNb18-10	X 6 CrNiNb 18-10	A 403 Grade WP347
1.4404	X2CrNiMo17-12-2	X 2 CrNiMo 17 13 2	A 312 Grade TP316L	1.4404	X2CrNiMo17-12-2	X 2 CrNiMo 17 13 2	A 182 Grade F316L	1.4404	X2CrNiMo17-12-2	X 2 CrNiMo 17 13 2	A 403 Grade WP316L
1.4401	X5CrNiMo17-12-2	X 5 CrNiMo 17 12 2	A 312 Grade TP316	1.4401	X5CrNiMo17-12-2	X 5 CrNiMo 17 12 2	A 182 Grade F316	1.4401	X5CrNiMo17-12-2	X 5 CrNiMo 17 12 2	A 403 Grade WP316
1.4571	X6CrNiMoTi17-12-2	X 6 CrNiMoTi 17 12 2	A 312 Grade S 31635	1.4571	X6CrNiMoTi17-12-2	X 6 CrNiMoTi 17-12-2	A 182 Grade F316Ti	1.4571	X6CrNiMoTi17-12-2	X 6 CrNiMoTi 17 12 2	
1.4429	X2CrNiMoN17-13-3	X 2 CrNiMoN 17 13 3	A 312 Grade TP316LN	1.4429	X2CrNiMoN17-13-3	X 2 CrNiMoN 17 13 3	A 182 Grade F316LN	1.4429	X2CrNiMoN17-13-3	X 2 CrNiMoN 17 13 3	A 403 Grade WP316LN
1.4436	X3CrNiMo17-13-3	X 5 CrNiMo 17 13 3	A 312 Grade TP316	1.4436	X3CrNiMo17-13-3	X 5 CrNiMo 17 13 3	A 182 Grade F316	1.4436	X3CrNiMo17-13-3	X 5 CrNiMo 17 13 3	A 403 Grade WP316
1.4435	X2CrNiMo18-14-3	X 2 CrNiMo 18 14 3	A 312 Grade TP316L	1.4435	X2CrNiMo18-14-3	X 2 CrNiMo 18 14 3	A 182 Grade F316L	1.4435	X2CrNiMo18-14-3	X 2 CrNiMo 18 14 3	A 403 Grade WP316LN
1.4439	X2CrNiMoN17-13-5	X 2 CrNiMoN 17 13 5	UNS S 31726	1.4439	X2CrNiMoN17-13-5	X 2 CrNiMoN 17 13 5	A 182 Grade F48	1.4439	X2CrNiMoN17-13-5	X 2 CrNiMoN 17 13 5	UNS S 31726
1.4539	X1NiCrMoCu25-20-5	X 1 NiCrMoCuN 25 20 5	UNS N 08904 (904L)	1.4539	X1NiCrMoCu25-20-5	X 1 NiCrMoCuN 25 20 5	A 182 Grade F904L	1.4539	X1NiCrMoCu25-20-5	X 1 NiCrMoCuN 25 20 5	UNS N 08904 (904L)
1.4547	X1CrNiMoCuN20-18-7		UNS S 31254	1.4547	X1CrNiMoCuN20-18-7		UNS S 31254	1.4547	X1CrNiMoCuN20-18-7		UNS S 31254
1.4529	X1NiCrMoCuN25-20-7	X 1 NiCrMoCuN 25 20 6	UNS N 08926	1.4529	X1NiCrMoCuN25-20-7	X 1 NiCrMoCuN 25 20 6	UNS N 08926	1.4529	X1NiCrMoCuN25-20-7	X 1 NiCrMoCuN 25 20 6	UNS N 08926
1.4462	X2CrNiMoN22-5-3	X 2 CrNiMoN 22 5 3	UNS S 31803 (Duplex)	1.4462	X2CrNiMoN22-5-3	X 2 CrNiMoN 22 5 3	A 182 Grade F51 (Duplex)	1.4462	X2CrNiMoN22-5-3	X 2 CrNiMoN 22 5 3	UNS S 31803 (Duplex)
1.4410	X2CrNiMoN25-7-4		UNS S 32750 (Superduplex)	1.4410	X2CrNiMoN25-7-4		A 182 Grade F53 (Superduplex)	1.4410	X2CrNiMoN25-7-4		UNS S 32750 (Superduplex)

